REFORM OF VITAL STATISTICS

Outline of a System of National Registration

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AS long ago as in November, 1918, Major Darwin read an important paper before the Royal Statistical Society on " Eugenics in relation to Economics and Statistics," and at the meetings of the International Commission of Eugenics (as it was then called) in London in 1925 a discussion on the question of Registration was initiated by Dr. van Herwerden with an account of the Dutch scheme of registration through a personal analysis card, when Dr. Mjöen also described the Norwegian system for the identification of the individual known as the Norwegian Identity Book. The subject again came up at the meeting of the Federation of Eugenic Societies at Paris in 1926.

But it hardly requires the quotation of authorities to justify the importance of good statistics, the need for which is continually confronting our Society in the course of its every-day work. There is hardly a question in the whole range of population problems—whether we are thinking of quantity or quality—on which we do not feel the want of more accurate statistical knowledge and research. I may mention such questions as the causes of the growth and decline of populations, the question whether a stationary or declining population is, or is not, favourable to quality, or to economic progress, the effects of contact and intermixture between different races and civilizations; all the questions connected with the phenomenon of the differential birth rate, in this and other countries, sterility, still-births, abortion, and mental deficiency. The differential birth rate and mental defectiveness are questions of special interest to this Society at the present time, and though I should be the last to hint that our present information does not fully justify the strong stand we are taking on them, no one who has occasion to deal with them will deny that in many directions it requires amplifying and strengthening.

As regards differential fertility, the official statistics in this country could, as I shall mention later, easily be improved; and as regards mental defectiveness, as Professor Carr-Saunders informed the Population Conference at Geneva two years ago and has recently again stated, there is little reliable information which enables us to compare the relative contribution to the population of mental defectives (or of the criminal class) with that of the rest. Upon the answer to this depends the greater or less desirability of measures for sterilization and segregation. Another very serious gap is the lack of information concerning the endowment of different social groups in a community. This could only be obtained by means of some kind of census of physical and mental capacity kept up over a series of years, which is also necessary if we are to do more than guess whether a given population is or is not deteriorating, as a result of the disproportionate multiplication of inferior stocks, the prevalence of birth control, the intermixture of nationalities or races, and so on.

I have only indicated a few points requiring further research and statistics, and it would be misleading to suggest that the best of registration systems would take us very far at first, or supersede the necessity for supplementary *ad hoc* investigations. It will be at once admitted that good vital statistics are the basis of all eugenic research; and I had better now go on to indicate in what respects our present vital statistics, excellent as they are compared with those of many foreign countries, and the foundation of all the work which population experts and eugenists have so far

accomplished, might be extended and improved if our politicians and administrators could be persuaded of their importance, or if private eugenic research were properly endowed, as it is in the United States.

As long ago as in November, 1916, in my first Presidential Address to the Royal Statistical Society on the " Organization of Registration in its bearing on Vital Statistics," I expressed the opinion that we were nearly at the end of what purely administrative action under our then existing powers in the General Register Office could do in the way of obtaining further information on which statistical research might be based, and gave an account of the particulars in which the records necessary for the improvement and extension of our vital statistics were either " altogether wanting or defective in accuracy." To remedy these defects we required (and still require) two things : (1) power which could only be given by legislation to obtain fuller information by way of " questionnaires " on the occasion of the registration of births and deaths by members of the public; and (2) a very considerable reorganization of the registration service of the country. Under the first head I will do no more than refer to one suggestion, among many made in that address, i.e., that of fertility tables which might be derived from fuller birth registration information. But I may also quote—just as one instance—a paragraph which has a direct bearing on eugenic study.

" As a record," I wrote, " the present entry is defective in that it either fails to identify completely the person to whom it relates or fails to point directly to the next step in tracing the family history. Thus in the death entry of one of the hundreds of John Smiths, there may be no clue to the marital condition or to any family relationship of the deceased man, and all we can learn from the record is that a certain John Smith, aged 54, a carpenter, died at such a place on such a day of such a disease. If, however, the entry contained statements as to the date and place of his birth, and that he was the husband of Mary Smith, formerly Jones, to whom he was married on such a date, there would be something resembling a complete identification of the deceased man and indications from which the family history could be traced by any interested person. In the same way, the birth entry of John Smith tells us only that he was born at such a place on such a date and that he is the son of John Smith and Mary Smith, formerly Jones, but it gives no clue to the next step backwards in the family history. If, however, the entry contained the date and place of marriage of his parents it would direct us at once to the documentary record of that event."

The defects to which I drew attention on that occasion remain so far unremedied.

LESSONS OF THE WAR

The outbreak of the War revealed the weakness of our system from the point of view of the organization of the man-power of the country. No means existed of computing, except by estimates from the preceding Census, the number of men in age-groups or occupations; and in less than a year from the beginning of the War it was found essential to pass through Parliament the National Registration Act of 1915, by means of which it became possible, within a very few weeks, to furnish accurate figures to the Government of the number of men, with their addresses and occupations, available for the Army, for the provision of munitions of war, and for the maintenance of essential civil services. The Act was made to apply to women also; and the foundations were accordingly laid of a permanent Registration, which, taken in conjunction with reforms in our registration of Births, Marriages, and Deaths and with Census taking, would certainly, as I shall indicate, have placed Great Britain in the forefront in the questions with which I am dealing to-day. It had always been held that the British population would never tolerate the use of identity papers, but the experience of the Act of 1915, which obliged every adult individual to carry a National Registration Certificate and to register every change of address, completely disposed of this assertion; and no difficulty of

any kind was found in the administration of this temporary Act.

As I was responsible for the Act I was therefore soon led to consider the possibilities presented by a *permanent organization* on these lines, and particularly the idea that a General Register might be made to subserve the purposes, amongst others, of Births and Deaths Registration and of the Census in a more complete and reliable form than at present, and I suggested this solution in the address to which I have alluded. In 1918 I succeeded, in the last year of the War, in persuading the Government to appoint a committee of experts, of which I was Chairman, to draw up a permanent scheme for registration. This was done, but unfortunately the matter got no further, for the Government, in the press of other preoccupations at the close of the War, did not see their way to carry out its recommendations; and the temporary measure, having served its purpose, was allowed to lapse, and an opportunity lost which may not soon recur.

The Report, however, remains presumably on record at the Ministry of Health, and supplies ample material for the study of the registration problem in England.

We found in existence in England a very considerable number of registers being kept at considerable expense for various special purposes, some of them covering very large sections of the population. These registers are kept under different Acts of Parliament, by various authorities, in varying areas, for independent purposes, without any provision for their co-ordination one with another.

The most important of these numerous special registers in relation to the system of general registration were the Electoral Registers for Parliament and Local Government, the school attendance registers, the Census (decennial only) and the registers of births, marriages, and deaths, which afford much of the material required for general registration. Our particular problem was therefore largely administrative; how to relate them to one another and prevent overlapping and waste of labour and money. It was recognized that these special registers would have in some measure to be retained, and others, such as a special register of persons in receipt of the public assistance from rates and taxes administered by various authorities, would have to be created. It was considered, therefore, that all these special and separate registers should be co-ordinated by the institution of continuous registers of the whole population, kept locally (on the lines of the then existing National Register of 1915) by the same authority as was responsible for births and deaths registration, which would link up the special registers into one coherent register by fusing the canvasses at present undertaken for the electoral and school attendance registers into one comprehensive inquiry, as well as such information for the use of special registers as could most conveniently be obtained in this way; and also by making all the registers mutually accessible by a system of reference marking. The general register would further enable all the others to be kept free from errors whether of duplication, omission, or the retention of " dead " entries.

THE NEED FOR CO-ORDINATION

The advantage of this from a statistical point of view is obvious. It is generally the association of facts which is found to be lacking when further statistical information regarding the population is called for. We have now no organized means of collating the numerous items of information collected and recorded as a result of the many paternal activities of the modern State. By the means indicated, the numerous official inquiries and registers, now made and maintained independently of each other, would be co-ordinated into a single system which would provide a *dossier* for each individual containing those particulars regarding him which the State is concerned to know. For identification purposes (the primary object) the new local general register would contain all the essential particulars as to each individual. One or more cards or sheets devoted to each individual, showing his record from its commencement with the

entry of birth, would furnish evidence both of his age and identity. (There are many John Smiths, but presumably only one born at a certain address on a given date, to parents of recorded names, ages, and occupations, etc.) To this would be added as time went on the chief registrable events of his life—changes of address, occupation (as already registered under the National Unemployment Insurance Act), marriage, the birth of children, etc.,—most of the information required being already recorded in one official register or another, but without any provision for the association of the whole.

IDENTIFYING THE INDIVIDUAL

Further, each individual was to be furnished (as under the National Registration Act) with an Identity Card or Certificate reproducing from the Register all the particulars necessary for identification which would have to be produced on such occasions as change of address, school entry, factory employment, health and unemployment insurance, marriage, birth certification, etc.

The scheme was to be completed by the creation of a Central Index Register, having for its primary purpose the maintenance of the local general registers, so far as concerned removals and prevention of duplicate entries; and would thus serve to keep accurate other special registers, such as those for health and unemployment insurance, old age pensions, and so on, and it could, as I shall indicate later, be made the main instrument for obtaining information interesting to eugenists.

Such, in the barest outline, were the proposals of our Committee. It would not be worth while to go into further detail. All that need be done is to indicate in very general terms the principle to which any good system should conform. *The first of these* is the identification of every individual within a community in order (*a*) that he shall be made responsible for the fulfilment of his obligations to the community, and (*b*) that he shall be ensured his rights as a citizen, whether these take the form of franchises to be exercised or dues to be received. The larger the responsibilities, the more extended the rights, the more diversified the communal services, the more imperative becomes the need for full and accurate identification of all the inhabitants. With an extended franchise, universal and compulsory schooling, insurance for health or unemployment, the treatment of infectious diseases, infant welfare and protection, compensation for accidents, old age pensions, widows' pensions, and War pensions, the necessity of safeguarding the marriage ceremony, not to mention police and military service, the identification of each citizen in the locality in which he resides becomes an essential condition alike of any assurance of personal rights and of the effectual and equitable administration of national and local services.

Upon this identification of every citizen in his own community depends the second great object of a Register, that in which eugenists are interested, viz., the acquisition of statistical information about the population (or any particular section of it), partly for the purposes of research, and partly to promote legislation and administrative action for social progress and the benefit of the community. I need only allude to the value of the data obtained from the questions asked in the British Census of 1911 as to fertility, and the establishment of certain facts as to the differential birth-rate which we owe to researches on our vital statistics by such statisticians as my former colleague, Dr. Stevenson. The most important practical aims of our Eugenics Society are founded on such statistics as these.

Further progress is checked and hampered by the fact that in England we have to work under a system of Births and Deaths Registration instituted before vital statistics were thought of. Not only would the creation of a general simple comprehensive registration system give boundless possibilities of extension in the matter of information obtainable, but a great improvement in the validity of our existing data. I may give one illustration of how this would occur.

The information now supplied by the public on the occasion of the registration of

Births, Marriages, or Deaths would be checked and supplemented by the records of the individual or family which would gradually be accumulated in the General Register; and the production of the identity card, containing name, address, occupation, etc., on each occasion of the registration of any one of these events would ensure a uniformity of statement as to occupation, which is one of the principal difficulties met with in the preparation, for instance, of occupational birth and death rates. Further, the registration of births and deaths has to be related to the size and make-up of the population in which they occur, in order to provide satisfactory evidence of the trend of natality and mortality. This information is supplied at present in Great Britain only by the decennial Census; and in the intervening years by estimates of the probable numbers, which are often very far from accurate. The existence of a Register which would enable us to ascertain the population of any local area at any given date, not only in mass but in full detail of age, sex, and marital condition, would at once remove the difficulty which largely vitiates the calculation of local birth rates and death rates—calculations upon which sanitary progress in great measure depends. It would, in fact, provide us with an elementary census annually or as often as might be required, at a minimum of trouble and expense.

I look upon this perfecting of our vital statistics as perhaps the most fundamental advantage we should get from the Register. There are so many directions in which hygienists and eugenists would benefit from more accurate and extended statistical information, that I have no time to touch on this branch of my subject. But I may just quote one example which has been suggested to me.

Uniformity in occupational classification would enable us, as I have already suggested, by comparing the number of deaths or births registered under the heading of, let us say, Colliery Carters, to be sure that these events are really to be referred to the existing population registered under that occupation in the Census. It would also enable us to face another problem of great complexity, but of very considerable and direct interest to eugenists, namely the transference of individuals or families from one class to another. In his Galton lecture this year Major Darwin made clear how great in absolute magnitude this transference is; his conclusions are, however, based primarily on the contrast between the birth rates, as modified by infantile and child mortality, in the different classes.

ANALYZING SOCIAL SELECTION

The effect in which eugenists are most directly interested depends, however, not only on the fertility of the married, but on the proportion of celibates and the age of marriage. These factors probably heighten the contrast in reproduction between social classes, while full allowance for mortality will tend somewhat in the opposite direction. Full data as to births and deaths in consistently classified occupational groups would supply a direct answer to the questions of very considerable eugenic urgency, as to which occupations are producing more children than are needed to maintain their numbers, which classes are producing less, and in each case by how much. If it appears, as has been estimated, that the professional and clerical groups of occupations are producing no more than half the children needed to maintain a stationary population, it is evident that any eugenic policy which does not recognize the need for effective action in increasing the natality of these classes, is in this respect seriously incomplete.

The analytic data necessary for making both precise and detailed calculations as to social transference analogous to those quoted by Major Darwin, would become available shortly after the establishment of effective registration. Some fifty years later, however, a new source of information more direct and detailed in some respects would begin to emerge. The comparison of the occupations of men then living with those of their fathers and grandfathers would supply, after the event, an analysis of the selective processes at work in our society, both in the action analogous to natural selection, in

modifying the predominant type of man in the population at large, and in their effects upon the constitution of the social structure. The effects of immigration and emigration would be taken fully and automatically into account, and we should have not merely, with respect to occupations such as the physicians', the gross fact that their numbers cannot be all drawn from parents of the same occupation, but the detailed statement of the actual occupations of their parents.

PEDIGREES AND SOCIAL PROMOTION

A particular question which has been brought to the notice of eugenists, and one which a satisfactory system of social statistics should be capable of answering, lies in the relative importance in social promotion of, on the one hand personal ability, and on the other comparative freedom from the burden of offspring. It is arguable, as indeed our Malthusian friends strongly argue, that in all classes the limitation of offspring to a few children gives to those few great advantages in their upbringing and education: they have, in fact, a better start in life. It should be possible to determine whether or not this better start in life is an important factor in determining the relative composition of the different social classes.

I will now turn to a point which bears even more directly on eugenic study. It will be remembered that our scheme involved the creation of a simple, skeleton, central index register of the whole population, fed from the local register, for the purpose of maintaining the accuracy of these registers in the matter of removals and so on. It is that aim which might give great opportunities. For if, to the particulars required merely for identification purposes there were added notes of the parentage, marriage, births of children, change of occupation and cause of, and age at, death, information would be afforded by which the genealogical history of each family could in time be traced. The mere possibility of tracing pedigrees for three or more generations, indeed, would be of little eugenic importance taken by itself. But taken in conjunction with other data which would or might be recorded, most valuable results could be obtained.

In view of the knowledge we already possess on the subject of the differential birth rate, and of the measures advocated to prevent the disproportionate multiplication of inferior and undesirable stocks, it is vital that eugenists should have the means of discriminating more scientifically than has yet been possible between the stocks whose increase should be encouraged and those whose heredity, or heredity combined with environment, make their reproduction harmful to the community. If we had the means of tracing from our records individuals of families which had been, perhaps for more than one generation, in receipt of some form of public assistance, of those who had a record of criminality, or had been lunatics or mentally defective or suffered from certain forms of disease, we should be on even more certain ground than we are at present in advocating the necessary measures for limiting the fertility of such individuals and classes.

An objection might be raised in England, from the " strong and widespread feeling," as Major Darwin has expressed it in his work on Eugenic Reform, " that no individual should be, as it were, branded for life on account of any disability discovered or misdemeanour committed in youth, and with this sentiment all must sympathise."

I see no insuperable reason, however, why, under proper safeguards a good part of this programme should not be realized, if once we could secure the establishment of the General Register with the co-ordination to it of the special registers which already exist and which will be created, and of the Census. It will no doubt be necessary sooner or later to have a register of persons in receipt of public assistance from the various authorities. We already get information, inadequate no doubt, from the Census as to feeblemindedness and blindness; and causes of death in death registration combined with morbidity statistics which could be made available from health insurance, will supply some of the information wanted as to disease. If such informa-

tion were linked up by the General Register we should have data, which could in time be extended and improved, related to the individuals registered.

THE PROPOSED DUTCH SYSTEM

Whether we could secure sufficient information for our purposes about criminality, certain transmissible diseases, etc., from other extraneous sources which could be incorporated in a General Register or from direct inquiries, would depend very much on how far societies like ours were able to inculcate a eugenic conscience in the public and in governing authorities. It is at all events encouraging to know that certain other countries are hopeful of obtaining information of eugenic importance from genealogical registration and personal cards. I need only allude to what Dr. van Herwerden told us in 1925 in London, when she quoted from the description given at the meeting of the *Institut International de Statistique* at Brussels in 1923 of the Dutch system proposed by M. Methorst. She mentioned some of the results to be expected from the tabulation of the cards—the influence of the age of the parents on the death-rate of the children; the influence of consanguinity; the correlation of male and female births; the superiority or inferiority of the first-born; death-rate in relation to occupation; family and hereditary diseases; the same occupation running in a family; the frequency of twins. M. Methorst stated, in addition, that efforts should be made to add information as to individuals from other sources and from special inquiries—such as information about deafness, blindness, criminality, mental infirmity, capacity, income.

Part of the information we require can no doubt be derived on broad statistical lines from an improved registration of births, marriages, and deaths; but for tracing anything like a life history of the individual and linking up his history with that of his parents and grandparents general registration of the population is essential. Eugenists, therefore, have the strongest interest in supporting proposals for the creation of Registration accompanied by Personal Identity Cards wherever such a system is not in existence.

I have perhaps dwelt on the desirability of General Registration longer than the possibility of attaining it at the moment warrants. We missed a great opportunity in 1919; but my hope is that the complexity of modern social conditions may in time make a general registration system an administrative necessity.

For the present, however, we can at least expect a gradual improvement in our present system of registration of Births, Deaths, and Marriages and in the Census. It is good news in this connection that a recent Act has at last removed the legislative bar (of which I spoke earlier) to obtaining fuller information from the public and to the reorganization of the registration service. Outside bodies like our Society should therefore have a better chance of a hearing in the future than they have had in the past, and should not relax their efforts to press reasonable demands.

In this connection, I may recall Major Darwin's letter nearly two years ago—in July 1927—to the Ministry of Health, asking for the careful consideration of certain demands.

The first of these was for the inclusion in the Census for 1931 of a repetition of the questions asked in the Census of 1911 (but omitted from that of 1921), as to the duration of marriages and the numbers of children born and surviving, which provided material, on a national scale, for analyzing the fall in fertility since 1876, the year of our highest birth rate, by social class, occupation, birthplace, and locality of residence. The repetition of these questions would give us invaluable information as to the changes in fertility now taking place in social classes.

Secondly, Major Darwin asked for improved methods of determining, from the data obtainable from Births and Deaths Registration, the rates of population growth or decrease among the different social clases of the community. A paper by Dr. Stevenson, the greatest authority on the subject

—indeed I may say the greatest of living medical statisticians—read in February, 1928, before the Royal Statistical Society clearly showed how the information required could be obtained by a few small changes in the tabulation of Birth and Death Certificates.

These are very modest requests, but we shall not get what we want, let me emphasize, unless we continue to press for them.

When we consider all we want (including other requests made by Major Darwin at the same time), and what we have any practical chance of getting, the difficulties, it must be admitted, loom large. But I think that statistics, in spite of the distaste which they inspire, have a way of coming by their own. Directly you have a policy to advocate or a position to defend you must use figures. And with the lively and growing interest there now is in the public and the Press in biology and heredity, and all the questions covered by these terms—birth control, sterilization, mental deficiency, family endowment, and the increasing urgency of population questions in the broadest sense—I believe the public demand for guidance in these subjects will make it impossible for Governments, however reluctant, to stand aloof for many years.

I have lately become connected with the formation of an International Union for the Scientific Investigation of Population Problems, and its component bodies the National Committees in all the principal countries in the world, of which the British Population Society is one. I think that this Union, which commands important scientific support in many countries, should have a powerful influence in stimulating research into all these questions, and should be able to bring effective pressure to bear in the matter of Government statistics, particularly in the direction of standardization.

I notice that Professor Thor Anderssen of Norway, in a paper he printed last year on the Geneva Population Conference, expressed the opinion that scientific statistics should be the first consideration for the new Union, and that civil registration of the populations should be their basis. If the Union should display activity in this matter, as I believe it will, it should be able to give a powerful stimulus to the cause which I have been advocating this afternoon, and it is my hope, that in this country at all events, the Eugenics Society and this new British Population Society will be of mutual assistance to each other. If the new Society in time succeeds in obtaining sufficient support, financial and other, to enable it to do its part in promoting research under the International Union, it should be of great value to us by providing some of the material upon which our educational work depends.